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EXAMINER				
CULLEN, SEAN P				
ART UNIT		PAPER NUMBER		
1725				
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01/24/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/584,218

Applicant(s)

MIYACHI ET AL.

Examiner

Sean P. Cullen, Ph.D.

Art Unit

1725

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 9, 2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 39 and 40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 39 and 40, the original disclosure does not support the limitations "wherein the activator layer does not comprise a binder." The original disclosure supports the inclusion of a binder (P9/L18-P10/L12). The original disclosure discloses embodiments that do not positively recite a binder (P6/L22-P7/L14; P13/L15-P16/L23). However, the mere absence of a positive recitation is not the basis for an exclusion. In other words, "wherein the activator

layer does not comprise a binder” must be supported in the disclosure may a passage the positively excludes said binder. Such a passage is not present in the original disclosure. Therefore, the limitation “wherein the activator layer does not comprise a binder” is not supported by the original disclosure.

The cited phraseology clearly signifies a "negative" or "exclusionary" limitation for which the applicants have no support in the original disclosure. Negative limitations in a claim which do not appear in the specification as filed introduce new concepts and violate the description requirement of 35 USC 112, first paragraph, Ex Parte Grasselli, Suresh, and Miller, 231 USPQ 393, 394 (Bd. Pat. App. and Inter. 1983); 783 F. 2d 453.

The insertion of the above phraseology as described above positively excludes a binder; however, there is no support in the present specification for such exclusions. While the present specification is silent with respect to the use of said binder (P6/L22-P7/L14; P13/L15-P16/L23), is noted that as stated in MPEP 2173.05(i), the "mere absence of a positive recitation is not the basis for an exclusion."

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 37 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 37 and 38 recite “consisting of” in the preamble of the claims and “comprises” in the body of the claims. “Consisting” excludes any unspecified element. In re Gray 11 USPQ

255 (CCPA 1931). Claims language “comprising” or “containing” opens claim to other, unspecified ingredients, even in major amounts. In re Baxter 210 USPQ 795 (CCPA 1981); Ex parte Gottzein 168 USPQ 176 (PO BdPatApp 1969); Swain v. Crittendon 141 USPQ 811 (CCPA 1964); Ex parte Davis 80 USPQ 448 (PO BdPatApp 1949); In re Horvitz 78 USPQ 79 (CCPA 1948). The phrase “consisting of” in the preamble excludes any nonspecified element; and “comprising” in the body of the claim opens the claim to other, unspecified ingredients, even in major amounts. Therefore, the simultaneously recite inclusive and exclusive transitional phrases pertaining to the same element rendering the claim indefinite.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (JP 09245771 A, see machine translation).

Regarding claim 37, Inoue et al. discloses an anode material [0019] which is used for an anode (1) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (1), a cathode (2) and a lithium-ion conducting non-aqueous electrolyte (see electrolysis solution, [0036]), consisting of:

- a particulate composite (see compound oxide, [0019]) which comprises
 - an Si oxide and at least one noble metal (see $\text{SiAgO}_{1.5}$, [0019]).

Regarding claim 38, Inoue et al. discloses an anode material [0019]) which is used for an anode (1) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (1), a

cathode (2) and a lithium-ion conducting non-aqueous electrolyte (see electrolysis solution, [0036]), consisting of:

- a particulate composite (see compound oxides with lithium, [0019]) which comprises
 - a lithium silicate at least one noble metal (see $\text{SiAgO}_{1.5}$, [0019]).

8. Claims 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Gan et al. (U.S. 2002/0061446 A1).

Regarding claim 37, Gan et al. discloses an anode material (see anode material, [0019]) which is used for an anode (see negative electrode, [0044]) in a non-aqueous electrolyte secondary battery (see secondary cell, [0044]) having at least the anode (see negative electrode, [0044]), a cathode (see positive electrode, [0044]) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous, ionically conductive electrolyte, [0040]), consisting of:

- a particulate composite (see material, [0018]) which comprises
 - an Si oxide (see SiO , [0018]) and at least one noble metal (see Ag, [0018]).

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (JP 09245771 A, see machine translation) in view of Yamamoto et al. (U.S. 2003/0054249 A1).

Regarding claim 39, Inoue et al. discloses an anode material [0019] for a secondary battery (Fig. 1) which is used for an anode (1) in a non-aqueous electrolyte secondary battery (Fig. 1) having at least the anode (1), a cathode (2) and a lithium-ion conducting non-aqueous electrolyte (see electrolysis solution, [0036]), comprising:

- an activator layer (1) which comprises
 - an Si oxide and at least one noble metal (see $\text{SiAgO}_{1.5}$, [0019]).

Inoue et al. does not explicitly disclose:

- wherein the activator layer does not comprise a binder.

Yamamoto et al. discloses a secondary battery wherein an activator layer (3a) does not comprise a binder (see second anode layer, [0069]) to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation ([0059]). Inoue et al. and Yamamoto et al. are analogous art because they are directed to nonaqueous lithium secondary batteries comprising silicon containing anodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode material of Inoue et al. without a binder as taught by Yamamoto et al. to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation.

Regarding claim 40, Inoue et al. discloses an anode material [0019] for a secondary battery (Fig. 1) which is used for an anode (1) in a non-aqueous electrolyte secondary battery

(Fig. 1) having at least the anode (1), a cathode (2) and a lithium-ion conducting non-aqueous electrolyte (see electrolysis solution, [0036]), consisting of:

- an activator layer (1) which comprises
 - a lithium silicate (see compound oxides with lithium, [0019]) at least one noble metal (see $\text{SiAgO}_{1.5}$, [0019]).

Inoue et al. does not explicitly disclose:

- wherein the activator layer does not comprise a binder.

Yamamoto et al. discloses a secondary battery wherein an activator layer (3a) does not comprise a binder (see second anode layer, [0069]) to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation ([0059]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode material of Inoue et al. without a binder as taught by Yamamoto et al. to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation.

11. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gan et al. (U.S. 2002/0061446 A1) in view of Inoue et al. (JP 09245771 A, see machine translation) and Yamamoto et al. (U.S. 2003/0054249 A1).

Regarding claims 38-40, Gan et al. discloses an anode material (see anode material, [0019]) which is used for an anode (see negative electrode, [0044]) in a non-aqueous electrolyte secondary battery (see secondary cell, [0044]) having at least the anode (see negative electrode, [0044]), a cathode (see positive electrode, [0044]) and a lithium-ion conducting non-aqueous electrolyte (see nonaqueous, ionically conductive electrolyte, [0040]), consisting of:

- a particulate composite (see material, [0018]) which comprises
 - an Si oxide (see SiO₂, [0018]) and at least one noble metal (see Ag, [0018]).

Gan et al. further discloses an anode material (see anode material, [0019]) comprising:

- an activator layer (see negative electrode, [0044]) which comprises
 - an Si oxide (see SiO₂, [0018]) and at least one noble metal (see Ag, [0018]).

Gan et al. does not explicitly disclose:

- a lithium silicate

Inoue et al. discloses a secondary battery comprising an activator layer (1) comprising a lithium silicate (see compound oxides with lithium, [0019]; [0031]). Inoue et al. teaches compounding lithium with silicon oxides in anode materials for lithium rechargeable batteries. Therefore, use of said lithium silicate in the anode material of Gan et al., which involves silicon-containing anode materials, would be obvious to one of ordinary skill in the art at the time of the invention, because it would amount to nothing more than a use of a known element for its intended use in a known environment to accomplish entirely expected result.

Modified Gan et al. does not explicitly disclose:

- wherein the activator layer does not comprise a binder.

Yamamoto et al. discloses a secondary battery wherein an activator layer (3a) does not comprise a binder (see second anode layer, [0069]) to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation ([0059]). Gan et al. and Yamamoto et al. are analogous art because they are directed to nonaqueous lithium secondary

batteries comprising silicon containing anodes. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to make the anode material of Inoue et al. without a binder as taught by Yamamoto et al. to exhibit good stability during repeating charge-discharge cycles and be tolerant to capacity degradation.

Response to Arguments

12. Applicant's arguments with respect to claims 37-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Cullen, Ph.D. whose telephone number is 571-270-1251. The examiner can normally be reached on Monday thru Thursday 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on 571-272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. P. C./
Examiner, Art Unit 1725

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 1725